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PATENT & TRADEMARK OFFICE

TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

Application Number	09/725,393
Filing Date	November 29, 2000
Inventor(s)	Arnab DAS et al.
Group Art Unit	2112
Examiner Name	Paul R. Myers
Attorney Docket Number	29250-002085/US

ENCLOSURES *(check all that apply)*

- ☐ Fee Transmittal Form
  - ☐ Fee Attached
- ☐ Amendment
  - ☐ After Final
  - ☐ Affidavits/declaration(s)
- ☐ Extension of Time Request
- ☐ Express Abandonment Request
- ☐ Information Disclosure Statement
- ☐ Certified Copy of Priority Document(s)
- ☐ Response to Missing Parts/ Incomplete Application
- ☐ Response to Missing Parts under 37 CFR 1.52 or 1.53
- ☐ Assignment Papers *(for an Application)*
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- ☐ LETTER SUBMITTING APPEAL BRIEF AND APPEAL BRIEF (w/clean version of pending claims)
- ☐ Appeal Communication to Group (***Notice of Appeal***)
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  - **-REPLY TO NOTICE OF NON-COMPLIANT APPEAL BRIEF**
  - **-AMENDED APPEAL BRIEF**

Remarks

MAIL STOP Appeal Briefs – Patents

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm *or* Individual name	Harness, Dickey & Pierce, P.L.C.	Attorney Name Gary D. Yacura	Reg. No. 35,416
Signature			
Date	August 10, 2005		

Attorney Docket No. 29250-002085/US

IN THE U.S. PATENT AND TRADEMARK OFFICE

Applicant:	Arnab DAS et al.	Conf.:	9723
Appl. No.:	09/725,393	Group:	2112
Filed:	November 29, 2000	Examiner:	Paul R. Myers
For:	SUB-PACKET ADAPTATION IN A WIRELESS COMMUNICATION SYSTEM		

REPLY TO NOTICE OF NON-COMPLIANT APPEAL BRIEF

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401 Dulany Street
Alexandria, VA 22314
MAIL STOP APPEAL BRIEF - PATENTS

August 10, 2005

Sir:

In reply to the Notice of Non-Compliant Appeal Brief mailed July 14, 2005, Applicants respectfully resubmit herewith an amended Appeal Brief for the above-identified application. Applicants submit that the amended Appeal Brief filed herewith is in accordance with current USPTO Practice and Procedures.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 08-0750 for any additional fee required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

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By

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Attachments

PATENT
29250-002085/US

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANTS:	Arnab DAS et al.	CONF. NO.:	9723
SERIAL NO.:	09/725,393	GROUP:	2112
FILED:	November 29, 2000	EXAMINER:	Paul R. Myers
FOR:	SUB-PACKET ADAPTATION IN A WIRELESS COMMUNICATION SYSTEM		

APPELLANTS' BRIEF ON APPEAL UNDER 37 C.F.R. §41.37

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August 10, 2005

Sir:

In accordance with the provisions of 37 C.F.R. §41.37, Appellants submit the following:

I. REAL PARTY IN INTEREST:

The real party in interest is Lucent Technologies Inc., as evidence by the Assignment recorded at Reel 011721, Frame 0995.

II. RELATED APPEALS AND INTERFERENCES

No related appeals or interferences are known.

III. STATUS OF CLAIMS:

Claims 1-14 and 16-24 are pending; with claims 1, 18, 21 and 24 being written in independent form.

Claims 1-5, 14 and 16-23 stand finally rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Bruckman (U.S. Patent Publication No. 2002/0051466), in view of Applicants' Admitted Prior Art (AAPA), and Tiedemann, Jr., et al. (U.S. Patent No. 5,914,950).

Claims 6-13 stand rejected under 35 U.S.C. §103(a) as allegedly being anticipated by Bruckman, AAPA, Tiedmann, and further in view of Buchholz (U.S. Patent No. 5,337,313).

Claims 1-14 and 16-24 are being appealed.

IV. **STATUS OF AMENDMENTS:**

The Amendment After Final filed May April 4, 2005 has presumably been entered as indicated in the Advisory Action dated April 22, 2005.

V. **SUMMARY OF CLAIMED SUBJECT MATTER:**

In Data Only Evolution of third generation CDMA based wireless communication systems, hereinafter referred to as 3G-1x EVDO, signal-to-interference ratio (SIR) at a receiver of a pilot signal transmitted by a base station may be used to determine a data rate which can be supported by the receiver. The determined data rate may correspond to a maximum data rate at which a minimum level of quality of service (QOS) may be achieved at the receiver. Higher measured SIR translates into higher data rates. For example, if a measured SIR at two different receivers is 12 dB and -2dB, then the data rates may be, for example, 2.4 Mb/s and 38.4 Kb/s, respectively.[1]

3G-1x EVDO allows the receiver with the most favorable channel conditions, that is, for example, the highest associated data rate (e.g., the highest measured SIR) to transmit ahead of receivers with comparatively

[1] Page 1, lines 14-25 of the specification.

less favorable channel conditions.[2] In determining the receiver with the most favorable channel conditions, 3G-1x EVDO utilizes a fast rate adaptation mechanism whereby the receiver, for each time slot, measures SIR, calculates a data rate using the measured SIR and reports the calculated data rate to the base station. This calculated data rate may be reported to the base station in the form of a rate indication message. Calculated data rates from multiple receivers are used by the base station to schedule data transmissions for each respective receiver.

For example, the base station may transmit data to the receiver in time slot n at the calculated data rate in the form of an encoder sub-packet. An encoder sub-packet is a representation of an encoder packet, which is a block of the data intended for the receiver. The receiver receives the encoder sub-packet and responds with an ACK/NACK message indicating to the base station whether the data transmission was successfully received, that is, without error. The ACK/NACK message is received by base station in time slot n+j, wherein j is a time offset.

An ACK received at the base station indicates that the data transmission to the associated receiver was successful. A NACK received at the base station indicates that the data transmission to the associated receiver was unsuccessful. If a NACK is received, the base station re-transmits the encoder sub-packet previously transmitted. The re-transmitted encoder sub-packet is received by the receiver in time slot n+j+k, wherein k is some known time offset.[3]

FIG. 2 illustrates a method for varying the size of sub-packets, the modulation scheme and/or number of time slots over which the sub-packets are transmitted according to an example embodiment of the

[2] Page 1, lines 26-30 of the specification.
[3] Page 1, line 31 – page 2, line 18 of the specification.

present invention.[4] Referring to FIG. 2, as discussed above, initially, the base station may indicate to the receiver the data transmission rate to be used by the base station. This data transmission rate may correspond to a rate indication message from the receiver and each of the encoder packet sizes (e.g., as shown in Table 1) (step 210).[5] An encoder packet is then processed into an encoder sub-packet having a size corresponding to the data transmission rate to be used (step 215). More specifically, for example, the encoder packet may be channel coded and subsequently punctured and/or repeated to obtain a sub-packet representing the encoder packet.[6] As discussed above, the size of the sub-packet may be dependent on the data rate at which the sub-packet is to be transmitted and the size of the encoder packet. Subsequently, after processing the encoder packet, an encoder packet size identifier may be added to the encoder sub-packet (step 220). The encoder packet size identifier indicates the size of the encoder packet from which the encoder sub-packet was derived. Based on the encoder packet size identifier and the transmission data rate, the receiver may determine the format of the sub-packet such that the receiver may correctly soft-combine and decode the associated encoder sub-packet with a re-transmission or a prior transmission of an encoder sub-packet derived from the same encoder packet.[7]

Returning to FIG. 2, after appending the encoder packet size identifier, the encoder sub-packet is modulated and transmitted to the selected receiver over one or more time slots (step 225).[8] The type of modulation scheme used to modulate the encoder sub-packet depends

[4] Page 5, lines 24-26 of the specification.
[5] Page 6, lines 1-4 of the specification.
[6] Page 6, lines 7-13 of the specification.
[7] Page 7, lines 3-10 of the specification.
[8] Page 7, lines 21-27 of the specification.

on the new data rate. In example embodiments of the present invention, higher modulations are required to achieve the higher data rates. For example, if the new data rate is 307.2 Kb/s, then the modulation scheme used to transmit the encoder sub-packet would be QPSK.

Independent claims 1 and 24 read on methods for transmitting data as illustrated, for example, in FIG. 3 and discussed in detail below.

FIG. 3 depicts an example 30 of a sub-packet formation scheme according to another example embodiment of the present invention. As shown in FIG. 3, an encoder packet comprising 3,072 bits may be turbo coded at 1/5 rate into 15,360 bits. The channel coded encoder packet may then undergo different puncturing and/or repetition techniques to obtain four different size encoder sub-packets. The original encoder packet may be derived from each of the encoder sub-packets. More specifically, the channel coded encoder packet may be punctured and/or repeated to produce, for example, two 13,824 bit encoder sub-packets, one 24,576 bit encoder sub-packet, two 12,288 bit encoder sub-packets and/or three 6,144 bit encoder sub-packets. The two 13,824 bit encoder sub-packets may or may not be identical to each other; likewise for the two 12,288 bit encoder sub-packets and three 6,144 bit encoder sub-packets. Regardless, at the receiver, each of the encoder sub-packets may be soft-combined with each other.[9]

Independent claims 18 and 21 read on methods of receiving a data transmission as illustrated, for example, in FIG. 1 and discussed in detail below.

FIG. 1 is a flowchart 100 illustrating an example data rate adaptation technique according to another example embodiment of the present invention.[10] As shown in FIG. 1, a base station may receive a

[9] Page 6, line 14 – page 7, line 2 of the specification.
[10] Page 3, lines 19-20 of the specification.

rate indication message from each of a plurality of receivers to which data transmissions may be intended (step 110).[11] Each rate indication message may be, for example, a channel condition measurement or a data rate calculated based on a channel condition measurement at a receiver, etc. The base station may then select a receiver associated with the highest data rate indicated in a respective rate indication message (step 115).

After selecting a receiver in step 115, the base station transmits an encoder sub-packet to the selected receiver at the data rate indicated in the rate indication message from the selected receiver. After the base station transmits the encoder sub-packet to the selected receiver (step 120), the base station waits for an ACK/NACK message from the receiver (step 125). If the base station receives an ACK message from the selected receiver (step 125), the process may return to step 110.[12]

Alternatively, if the base station receives a NACK message, the base station may receive another rate indication message from the selected receiver (step 135), and the selected receiver may store the data transmitted by the base station (at step 120) for subsequent soft-combining.[13] After receiving the second rate indication message from the selected receiver, the base station then re-transmits the encoder sub-packet of data to the selected receiver, for example, at the data rate indicated in the second rate indication message received (step 140).[14]

In example embodiments of the present invention, the encoder sub-packet may be transmitted at a data rate higher than the data rate indicated in the first or second rate indication message by utilizing the methods described above with regard to FIGs. 2 and/or 3. For example,

[11] Page 3, lines 20-24 of the specification.
[12] Page 3, lines 24-27 of the specification.
[13] Page 5, lines 2-7 of the specification.
[14] Page 5, lines 8-11 of the specification.

as discussed above, the data rate at which data is transmitted to the selected receiver may be determined based on the data rate message received from the receiver and the size of the encoder packet to be transmitted to the receiver. For larger size encoder packets, the base station may desire to set the new data rate as a higher multiple (e.g., four times) of the data rate indicated in the data rate indication message in order to reduce the number of time slots utilized in the transmission and/or to promote scheduling flexibility.

For smaller size encoder packets, the base station may desire to set the new data rate as a lower multiple (e.g., one times) of the data rate indicated in the data rate indication message such that the transmission channel between the base station and receiver may be utilized more efficiently. Table I depicts an example lookup table which may be used in selecting a new data rate based on the data rate indicated by the receiver and the size of the encoder packet.[15]

Still referring to FIG. 1, in another example embodiment of the present invention, regardless of whether the ACK/NACK message received by the base station (step 125) is an ACK or a NACK, the process 100 (of FIG. 1) may return to step 110. In this example embodiment, the re-transmission to the selected receiver would not occur until the selected receiver is again the receiver with the highest associated data rate.[16]

VI. <u>GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL:</u>

Appellants seek the Board's review of the rejection of claims 1-5, 14 and 16-24 rendered obvious under 35 U.S.C. §103(a) by Bruckman (U.S. Patent Publication No. 2002/0051466), in view of Applicants'

[15] Page 5, line 1 of the specification.
[16] Page 5, lines 17-20 of the specification.

Admitted Prior Art (AAPA), and Tiedemann, Jr., et al. (U.S. Patent No. 5,914,950) and the rejection of claims 6-13 rendered obvious under 35 U.S.C. § 103(a) by Bruckman, AAPA, Tiedmann, and further in view of Buchholz (U.S. Patent No. 5,337,313).

VII. ARGUMENTS:

A. Appellants traverse the rejection of claims 1-5, 14 and 16-24 anticipated under 35 U.S.C. §103(a) by Bruckman (U.S. Patent Publication No. 2002/0051466, hereinafter Bruckman), in view of Applicants' Admitted Prior Art (hereinafter AAPA), and Tiedemann, Jr., et al. (U.S. Patent No. 5,914,950, hereinafter Tiedmann).

Claims 1-5, 14 and 16-24, claims 6, 7, 9-11 and 13, and claims 8 and 12 are argued separately below. However, claims 1-14 and 16-24 rise and fall together.

i. Claims 1-5, 14 and 16-24

On page 5 of the January 4, 2005 Office Action, the Examiner submits that Bruckman allegedly teaches channel coding packets, puncturing, and/or repeating channel coded packets, as set forth in claim 1. However, Appellants respectfully disagree with the Examiner's conclusion.

As shown in FIG. 1 of Bruckman, a transmitter includes packet sources 26, which may generate streams of data packets for transmission over channel 25. The dynamic packet fragmenter 28

determines fragment sizes into which packets are to be divided.[17] When an input packet from the source 26 exceeds the determined fragment size, fragmenter 28 divides the packet for transmission into multiple fragments.[18] The sizes of the fragments are determined based on a data transmission rate over channel 25 by a transmitter front end 30. The fragmenter 28 calculates a fragment length for each value of the actual channel data rate based on overhead and maximum permitted delay.[19]

However, Appellants respectfully submit that Bruckman fails to teach or suggest at least "puncturing and/or repeating channel coded packets," to produce a first sub-packet based on a "size of the encoder packet," as set forth in claim 1, for example. Instead, at most, Bruckman arguably discloses the fragmenting (dividing) of packets into pieces based on a transmission rate over a channel 25, and further the optimal fragment length is based on considerations of overhead and maximum permitted delay.

Furthermore, in contrast to the Examiner's position, the actual size of the datagram received at the transmitter front end 30 merely triggers the fragmenting of a received datagram and is not used in determining a size of the packet fragments. In other words, when an input packet from the sources 26 exceeds a determined fragment size, fragmenter 28 divides the packet for transmission into multiple fragments (see paragraph [0026], lines 9-11), however, the input packet size is not used in determining the size of the packet fragments.

On page 3 of the January 4, 2005 Office Action, the Examiner recognizes that Bruckman is silent with regard to "where channel conditions are determined", and thus, Bruckman fails to teach or suggest a "first data transmission rate different from and based on a data rate

[17] Page 2, paragraph [0026], lines 6-8 of Bruckman.
[18] Page 2, paragraph [0026], lines 8-11 of Bruckman.
[19] Page 2, paragraphs [0026], lines 11-17of Bruckman.

indicated in a first rate indication message from a receiver," as set forth in claim 1, for example. The Examiner relies on AAPA for allegedly teaching this limitation.

On page 5 of the January 4, 2005 Office Action, the Examiner submits that the AAPA teaches "using measuring channel conditions at the receiver and transmitting either the channel conditions or the desired transmission rate based upon the channel conditions to the transmitter," citing page 1, lines 26-32 of the specification. However, Appellants respectfully disagree with the Examiner's conclusion.

The AAPA, at most, arguably discloses a scheduling method for a base station. Namely, the receiver with the most favorable channel conditions (for example, the highest measured signal-to-interference ratio (SIR)) and subsequently the highest associated data rate transmits ahead of receivers with less favorable channel conditions. The receiver measures the SIR for each time slot and calculates a data rate using the measured SIR. The calculated data rate is then reported to the base station. The calculated data rates from multiple receivers are used by the base station to <u>schedule</u> when data transmission is to occur for a receiver. Accordingly, AAPA merely defines a scheduling algorithm, and does not disclose at least "a first data transmission rate different from and based on a data rate indicated in a first rate indication message from a receiver," as set forth in claim 1. In contrast, as discussed above, AAPA at most discloses the reporting of a data rate from a receiver to a base station <u>for use in scheduling users for transmission</u>.

On pages 5 and 6 of the January 4, 2005 Office Action, the Examiner recognizes that Bruckman and AAPA both fail to teach or suggest a "first data transmission rate is different from and based on a data rate for transmitting the first encoder sub-packet indicated in a first

rate indication message from a receiver", as set forth in claim 1, for example, and allegedly relies upon Tiedmann for teaching this limitation.

On page 5 of the January 4, 2005 Office Action, the Examiner relies upon column 11, lines 43-64 of Tiedmann for allegedly teaching a "first data transmission rate is different from and based on a data rate for transmitting the first encoder sub-packet indicated in a first rate indication message from a receiver", as set forth in claim 1. More specifically, the Examiner alleges that column 11, lines 43-64 of Tiedmann disclose "the transmitter selection [of] a transmission rate that is difference from and based upon the desired maximum transmission rate of the receiver" (see pages 5 and 6 of the January 4, 2005 Office Action). On page 4 of the January 4, 2005 Office Action, the Examiner further submits that "Tiedmann's receiver (the remote station 6) transmits a transmission rate request to the channel scheduler which selects the preferred transmission rate based upon this request. This [preferred transmission] rate is at or below the requested transmission rate. In the case that it is below the requested transmission rate it is both based upon and different from the requested transmission rate." However, Appellants respectfully disagree with the Examiners conclusion.

Column 11, lines 44-64 of Tiedmann, states:

> Remote station 6 can also transmit a <u>requested transmission rate</u> to the cell. The requested transmission rate can be based on the queue size which is indicative of the amount of data to be transmitted, the total transmit power available to remote station 6, the predicted transmit energy-per-bit required for the upcoming scheduling period, and the backoff power of remote station 6. The <u>requested transmission rate represents the maximum transmission rate which remote station 6 can support</u>. This value is derived in detail below.
>
> Channel scheduler 12 can also recommend a <u>preferred</u>

> transmission rate based on the amount of data, as measured by the queue size, to be transmitted by the scheduled user at step 222. The preferred transmission rate can also be made a function of the transmit power available to remote station 6, if this information is available to channel scheduler 12. In the exemplary embodiment, the queue size and the transmit power available to remote station 6 are sent from remote station 6 to channel scheduler 12 at the start of each scheduling period. The preferred transmission rate is selected to be at or below the transmission rate required to transmit the data in the queue within the scheduling interval. (emphasis added)

As is clearly stated in the above passage, while the requested transmission rate arguably represents a maximum transmission rate, which the remote station can support, the channel scheduler 12 does not select a transmission rate, which is "at or below the requested transmission rate", as alleged by the Examiner. Instead, the scheduler 12 recommends a preferred transmission rate based on the amount of data, as measured by the queue size, to be transmitted by the scheduled user at step 222, and selects a preferred transmission rate at or below a transmission rate required to transmit the data in the queue within the scheduling interval. Thus, contrary to the Examiner's allegation on page 4 of the January 4, 2005 Office Action, the channel scheduler does not select a "preferred transmission rate based upon [the transmission rate request]".

Accordingly, Appellants respectfully submit that Tiedmann fails to teach or suggest a "first data transmission rate is different from and based on a data rate for transmitting the first encoder sub-packet indicated in a first rate indication message from a receiver", as set forth in claim 1.

Furthermore, on May 4, 2005, Appellants' Representative conducted a telephonic interview with the Examiner. During this

interview, Appellants' Representative and the Examiner discussed independent claim 1 and the teachings of Bruckman, AAPA and Tiedmann.

On May 9, 2005, the Examiner mailed an Interview Summary, which states:

> Applicants argued Bruckmann, AAPA and Tiedmann. The examiner made clear his position on Bruckmann on how the size of the suppacket is based on the size and rate of the packet and AAPA taught transmitting conditions from the receiver to the base station. Applicants argument that the requested rate and the required rate are not the same thing. The examiner agrees. The connection between the requested rate and the required rate needs be further considered. The applicants appear to be correct that the selected rate appears to be based on either the requested rate OR different from the requested rate (based on different factors), as opposed to the claim language of based on AND different from the requested rate. The examiner needs to further review Tiedmann to determine what factors that for selecting the rate the rate are and if there is a connection to the requested rate.

From the above excerpt from the May 9, 2005 Interview Summary, it is clear that Tiedmann is in contrast with the claimed invention set forth in claim 1, for example. That is, the selected rated of Tiedmann is based on or different from the requested rate, whereas the first data transmission rate (of claim 1) is "different from and based on a data rate for transmitting the first encoder sub-packet indicated in a first rate indication message from a receiver."

Accordingly, for at least the reasons set forth above, Appellants respectfully submit that even assuming Bruckman, Appellants Admitted Prior Art, and Tiedmann could be combined (which Appellants do not admit for at least the reasons set forth below), the alleged combination would still fail to teach or suggest all of the limitations set forth in claim 1.

With regard to independent claims 18, 21 and 24, Appellants respectfully submit that these independent claims are also allowable for at least one reason somewhat similar to that which is set forth above with respect to claim 1.

With regard to claims 2-5, 14, 16, 17, 19, 20, 22 and 23, Appellants submit that these dependent claims are also allowable by virtue of their dependency from independent claims 1, 18 and 21.

Furthermore, in attempting to combine the teachings of Bruckman and Tiedmann, the Examiner submits that it would have been obvious to combine the references in order to "take into account factors such as power requirements and other transmitters", citing column 11, lines 43-64 of Tiedmann (see page 6 of the January 4, 2005 Office Action).

However, Appellants strongly disagree with the Examiner's conclusion. This reasoning by the Examiner is a classic "could have" combined argument. The test for obviousness, however, is "would have." The Examiner has provided no reason as to why one of ordinary skill in the art would have combined the teachings of Bruckman and Tiedmann other than the cited portion of Tiedmann, which Appellants submit is not motivation. Instead, the cited portion of Tiedmann merely discusses factors taken into account when determining a data transmission in the system as disclosed by Tiedmann, and not why one of ordinary skill in the art would have been motivated to use the factors in the system as disclosed by Bruckman.

Accordingly, Appellants submit that the Examiner has not supplied evidence of the necessary motivation needed to lead one of ordinary skill in the art to combine the teachings of Bruckman and Tiedmann as set forth in two cases decided by the Court of Appeals for the Federal Circuit (CAFC), In re Dembiczak, 175 F.3d 994, 999, 50 USPQ2d 1614, 1617 (Fed.Cir. 1999) and In re Kotzab, 217 F.3d 1365, 1371, 55 USPQ2d

1313, 1317 (Fed.Cir. 2000). Instead, it appears that the Examiner has made use of impermissible hindsight reconstruction. It appears the Examiner has used the present application as a blueprint, and then alleged that Bruckman could be combined with Tiedmann to provide the missing elements without identifying or discussing any specific evidence of motivation to combine.

As such, a *prima facie* case of obviousness has not been properly established.

Furthermore, Appellants submit that the Examiner's alleged combination of Bruckman and AAPA is also improper for at least reasons somewhat similar to those set forth above.

Accordingly, Appellants respectfully request withdrawal of the above rejections.

ii. Claims 6, 7, 9-11 and 13

As discussed above, Applicants respectfully assert that Bruckman in view of AAPA and/or Tiedmann fails to teach or suggest all of the limitations as set forth in claims 1, 18, or 21. Buchholz has been relied upon by the Examiner for allegedly teaching limitations set forth in claims 6, 7, 9-11 and 13. However, Applicants respectfully assert that even assuming *arguendo* that Bruckman, AAPA, or Tiedmann could be combined with Buchholz (which Applicants do not admit for at least the reasons somewhat similar to those set forth above), Buchholz would still fail to make up for at least the deficiencies of Bruckman, AAPA, and Tiedmann with respect to claim 1.

Accordingly, Applicants respectfully request that the above rejection be withdrawn.

iii. Claims 8 and 12

Furthermore, with regard to claims 8 and 12, the Examiner acknowledges the Bruckman does not teach or suggest modulating data, and has taken Official Notice "that modulating data to transmit data is well-known" (see page 7 of the outstanding Office Action). Furthermore, the Examiner submits that it would have been obvious to "modulate the data because this would have allowed for the use of standard modems which have the advantage of having good resistance to noise on the wire" (see page 7 of the outstanding Office Action).

However, similar to that as discussed above Applicants respectfully submit that the Examiner has failed to provide the necessary motivation for incorporating what the Examiner considers "well-known" into the system as disclosed by Bruckman. Furthermore, the mere fact that the modulation of data is a well-known technique, and Bruckman chose not to modulate the data, is reason enough why the skilled artisan would not be motivated to "modulate the data" in the system disclosed by Bruckman.

Accordingly, Applicants respectfully request withdrawal of all of the above rejections.

VIII. CONCLUSION:

Appellants respectfully request the Board to reverse the Examiner's rejection of claims 1-14 and 16-24.

The Commissioner is authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 08-0750 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Respectfully submitted,

HARNESS, DICKEY & PIERCE, PLC

By ______________________
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CLAIMS APPENDIX

Claims 1-14 and 16-24 on Appeal:

1. A method of transmitting data comprising the steps of:

channel coding an encoder packet to produce a channel coded encoder packet; and

puncturing and/or repeating the channel coded encoder packet to produce a first encoder sub-packet having a first size based on a size of the encoder packet and a first data transmission rate at which the first encoder sub-packet is to be transmitted, wherein the first data transmission rate is different from and based on a data rate for transmitting the first encoder sub-packet indicated in a first rate indication message from a receiver.

2. The method of claim 1, wherein the first data transmission rate is based on first channel conditions measured at a receiver to which the first encoder sub-packet is intended.

3. The method of claim 1, wherein the first encoder sub-packet has a format which allows the first encoder sub-packet to be soft combined with a second encoder sub-packet derived from the same encoder packet as the first encoder sub-packet.

4. The method of claim 3, wherein the first encoder sub-packet is of a different size than the second encoder sub-packet.

5. The method of claim 3, wherein the first encoder sub-packet is of an identical size than the second encoder sub-packet.

6. The method of claim 1 comprising the additional step of:

adding a first encoder packet size identifier to the first encoder sub-packet indicating the size of the encoder packet from which the first encoder sub-packet was derived.

7. The method of claim 6 comprising the additional step of:

transmitting the first encoder sub-packet with the first encoder packet size identifier at the first data transmission rate.

8. The method of claim 7, wherein the first encoder sub-packet with the first encoder packet size identifier is modulated using a modulation scheme based on the first data transmission rate.

9. The method of claim 7 comprising the additional step of:

prior to the step of transmitting the first encoder sub-packet, transmitting a rate indication message to a receiver to which the first encoder sub-packet is intended indicating the first data transmission rate.

10. The method of claim 1 comprising the additional step of:

adding an encoder sub-packet format identifier to the first encoder sub-packet indicating a first format of the first encoder sub-packet.

11. The method of claim 10 comprising the additional step of:

transmitting the first encoder sub-packet with the first encoder sub-packet format identifier at the first data transmission rate.

12. The method of claim 11, wherein the first encoder sub-packet with the first encoder sub-packet format identifier is modulated using a modulation scheme based on the first data transmission rate.

13. The method of claim 11 comprising the additional step of:

prior to the step of transmitting the encoder sub-packet, transmitting a first rate indication message to a receiver to which the first encoder sub-packet is intended indicating the first data transmission rate.

14. The method of claim 1 comprising the additional step of:

prior to the step of puncturing and/or repeating the channel coded encoder packet, receiving the first rate indication message from a receiver to which the encoder packet is intended indicating a data rate based on first channel conditions measured at the receiver.

16. The method of claim 14 comprising the additional step of:

transmitting a new rate message to the intended receiver indicating the first data transmission rate.

17. The method of claim 1 comprising the additional steps of:

receiving a NACK message indicating that a transmission of the encoder sub-packet was not successfully received at a receiver to which the first encoder sub-packet was intended; and

puncturing and/or repeating the channel coded encoder packet to produce a second encoder sub-packet having a second size based on a size of the encoder packet and a second data transmission rate at which the second encoder sub-packet is to be transmitted.

18. A method of receiving a data transmission comprising the steps of:

receiving at a receiver a message indicating a first data transmission rate;

receiving a first encoder sub-packet with a first encoder packet size identifier indicating a size of the first encoder sub-packet; and

decoding the first encoder sub-packet using the first encoder packet size identifier and the first data transmission rate, wherein the first data transmission rate is different from and based on a data rate for transmitting the first encoder sub-packet indicated in a first rate indication message from a receiver.

19. The method of claim 18 comprising the additional step of:

transmitting a negative acknowledgement message and a rate indication message if the first encoder sub-packet can not be successfully decoded, wherein the rate indication message indicates current channel conditions at the receiver.

20. The method of claim 19, comprising the additional steps of:

receiving a message indicating a second data transmission rate;

receiving a second encoder sub-packet with a second encoder packet size identifier indicating a size of the second encoder sub-packet; and

decoding the second encoder sub-packet using the second data transmission rate, the second encoder packet size identifier and the first encoder sub-packet.

21. A method of receiving a data transmission comprising the steps of:

receiving at a receiver a message indicating a first data transmission rate;

receiving a first encoder sub-packet with a first encoder sub-packet format identifier indicating a format of the first encoder sub-packet; and

decoding the first encoder sub-packet using the first encoder sub-packet format identifier and the first data transmission rate, wherein the first data transmission rate is different from and based on a data rate for transmitting the first encoder sub-packet indicated in a first rate indication message from a receiver.

22. The method of claim 21 comprising the additional step of:

transmitting a negative acknowledgement message and a rate indication message if the first encoder sub-packet can not be successfully decoded, wherein the rate indication message indicates current channel conditions at the receiver.

23. The method of claim 22, comprising the additional steps of:

receiving a message indicating a second data transmission rate;

receiving a second encoder sub-packet with a second encoder sub-packet format identifier encoder sub-packet indicating a format of the second encoder sub-packet; and

decoding the second encoder sub-packet using the second data transmission rate, the second encoder sub-packet format identifier and the first encoder sub-packet.

24. A method of transmitting data comprising the steps of:

channel coding an encoder packet to produce a channel coded encoder packet; and

puncturing and/or repeating the channel coded encoder packet to produce a first encoder sub-packet having a first size based on a size of the encoder packet and a first data transmission rate at which the first encoder sub-packet is to be transmitted and including a first encoder packet size identifier to the first encoder sub-packet indicating the size of the encoder packet from which the first encoder sub-packet was derived, wherein the first data transmission rate is different from and based on a data rate for transmitting the first encoder sub-packet indicated in a first rate indication message from a receiver.